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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/613,126 | 07/03/2003 | Christopher Robert Baxter | N001 100077 | 7215 |

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| EXAMINER | |
|---|---|
| HANNETT, JAMES M | |
| **ART UNIT** | **PAPER NUMBER** |
| 2622 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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| 3 MONTHS | 03/30/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/613,126 | BAXTER ET AL. | |
| | Examiner | Art Unit | |
| | James M. Hannett | 2622 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *10-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☒ Claim(s) *8 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/1/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Claims 1-9 in the reply filed on 2/28/2007 is acknowledged.

### *Information Disclosure Statement*

The information disclosure statement (IDS) submitted on 3/1/2004 has been considered by the examiner.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**1:** Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,839,452 B1 Yang et al.

2: As for Claim 1, Yang et al depicts in Figures (1A and 2A) and teaches on Column 2, Lines (5-11, 21-26 and 34-39) and Column 4, Lines 3-63) a method for data transmission from an image array (202) comprising the steps of: providing an X by Y array of detector elements (202); identifying a predetermined feature (The system detects the presence of an object in the field of view); examining the array elements (202) for presence of the predetermined feature (the object being tracked); defining a pixel set within a fovea (106) associated with one or more elements of the array in which the predetermined feature is present; agglomerating elements

outside the fovea to create super-pixels (100 and 102); reading a data value from each of the foveal pixels (106) and super-pixels (100 and 102) in the array (202); and analyzing the data value from each of the foveal pixels (106) and super-pixels (100 and 102) in the array (202); and analyzing the data values for temporal data content.

3: In Regards to Claim 2, Yang et al teaches on Column 4, Lines 35-45 the step of agglomerating elements (creating super-pixels) comprises the steps of: defining a charge sharing scheme (averaging pixels); implementing a charge sharing scheme (averaging the pixels) based on presence of the predetermined feature (if an intruder is detected); and sharing charge between adjacent elements (averaging a group of adjacent pixels) pursuant to the scheme.

4: As for Claim 3, Yang et al teaches on Column 4, Lines 50-63 and depicts in Figure 1A implementing the charge sharing scheme (averaging pixels to create super-pixels) comprises the steps of determining a first region (102) of first super-pixel sizes adjacent the fovea (106); and, determining a second region (100) of second super-pixel sizes adjacent the first region (102).

5: In Regards to Claim 4, Yang et al teaches on Column 4, Lines 35-55 the step of analyzing comprises the steps of determining a parameter change (change in the location of the intruder based on the movement by the intruder) in the data values; and, redefining the agglomeration scheme based on the parameter change. Yang et al teaches that at the intruder moves within the imaging field the location and sizes of the windows that correspond to the different resolutions will change in real-time as the intruder moves in real-time.

6: As for Claim 6, Yang et al teaches on Column 5, Lines 1-25 that the windows of different resolution will be changed on a frame by frame basis by comparing the location of the intruder in

multiple frames. Therefore, in order to compare subsequent frames in time it is inherent that the frames of data are stored and then recreated in order to be used in the comparison. Therefore, Yang et al teaches recording the pixel agglomeration locations; and, recreating pixel configuration data in the agglomerated condition.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7: Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,839,452 B1 Yang et al in view of USPN 5,243,418 Kuno et al.

8: As for Claim 5, Yang et al teaches a system that can redefine the resolution format of an image sensor including high resolution sections (fovea) and low resolution section (super-pixels). Yang et al teaches that these sections locations are changed based on the detection and location of an object within the imaging field. However, Yang et al simply teaches detecting the intruder and does not teach what parameters of the captured light is used to detect the intruder and adjust the imaging section based on brightness.

Kuno et al teaches on Column 2, lines 44-68 and in the abstract an intruder tracking system that determines the presence of an intruder by detecting changes in brightness (pixel luminance). Kuno et al teaches that this is a superior intruder tracking system and provides accurate tracking capabilities.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the intruder detection method of Yang et al which changes the Fovea based on the detected image signal results using the detected change in brightness characteristics as taught by Kuno et al in order to provide a superior intruder tracking system and provide accurate tracking capabilities.

**7:** Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,839,452 B1 Yang et al in view of US 2003/0169847 A1 Karellas et al.

8: In Regards to Claim 7, Yang et al teaches the use of an imaging system that has a single image sensor that can adjust the resolution and track image. However, Yang et al only teaches a single image sensor for performing this operation.

Karellas et al teaches in the abstract and depicts in Figure 4a and on Paragraphs [0101-0110] that it was advantageous to tile image sensor in an imaging system side by side to form an array of sensors in order to increase the size and resolution of the imaging system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the image sensor as taught by Yang et al in a tiled array of sensors as taught by Karellas et al in order to provide the system of Yang et al with a tiled array of image sensors and therefore, improve the resolution of the system. Furthermore, the examiner asserts that placing these images in a tiled fashion and having them for in consort with each other will provide a plurality of additional arrays (image sensors)circumferentially spaced around the X-Y array (center array in the tiled array); measuring the response of each array; modifying the definition of the foveal pixel set in response to measured responses of the arrays.

***Allowable Subject Matter***

Claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 7,009,645 B1 Sandini et al teaches a space variant sensor array; USPN 6,455,831 B1 Bandera et al teaches a CMOS Foveal Image sensor; USPN 5,796,095 Matsuyama et al teaches an area sensor having a high resolution section and a low resolution section.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hannett whose telephone number is 571-272-7309. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett
Examiner
Art Unit 2622

JMH
March 22, 2007

TUAN HO
PRIMARY EXAMINER